

# References

- 1 Koch R. Aetiology of tuberculosis. In: Rosenkrantz BG, ed. From consumption to tuberculosis: a documentary history. New York: Garland Publishing; 1994. p. 197-224.
- 2 Bates B. Bargaining for life: a social history of tuberculosis, 1876-1938. Philadelphia: University of Pennsylvania Press; 1992.
- 3 Teller ME. The tuberculosis movement: a public health campaign in the Progressive Era. New York: Greenwood Press; 1988.
- 4 Duffy J. A history of public health in New York City, 1866-1966. New York: Russell Sage Foundation; 1974.
- 5 Shryock RH. National Tuberculosis Association, 1904-1954: a study of the voluntary health movement in the United States. New York: National Tuberculosis Association; 1957.
- 6 Biggs HM. The administrative control of tuberculosis. *Med News* 1904;84:337-345.
- 7 Foster JPC. Detention institutes for ignorant and vicious consumptives. *Transactions, First Annual Meeting, National Association for the Study and Prevention of Tuberculosis*; 1905(1). p. 337-345.
- 8 Rothman SM. Living in the shadow of death: tuberculosis and the social experience of illness in American history. New York: Basic Books; 1994.
- 9 Lerner BH. New York City's tuberculosis control efforts: the historical limitations of the "war on consumption." *Am J Public Health* 1993;83:758-766.
- 10 Ryan F. The forgotten plague: how the battle against tuberculosis was won—and lost. Boston: Little, Brown; 1993.
- 11 Lerner BH. Temporarily detained: tuberculous alcoholics in Seattle, 1949-1960. *Am J Public Health* 1996;86:257-265.
- 12 Northrop C, Fountain JH, Zahn DW. The practical management of the recalcitrant tuberculous patient. *Public Health Rep* 1952;67:894-898.
- 13 Linell MA. The detention ward and its place in the control and treatment of tuberculosis. *Am Rev Tuberc Pulm Dis* 1956;74:410-416.
- 14 Northrop C. Compulsory isolation. *Bull Nat Tuberc Assoc* 1956;42:149-150.
- 15 Davies R. Isolating the recalcitrants. *Bull Nat Tuberc Assoc* 1954;40:121-122.
- 16 Davies RJ. The prerequisites for a successful campaign of tuberculosis eradication. *Health Pilot [Washington Tuberculosis Association]* 1947;29(6):6-8, 11.
- 17 Washington State Department of Health. Annual report, 1949. Seattle: Washington State Department of Health; 1950. p. 9.
- 18 Morgan MC. Skid Road: an informal portrait of Seattle. New York: Viking Press; 1951.
- 19 Lerner BH. Contagion and confinement: controlling tuberculosis along the Skid Road. Baltimore: Johns Hopkins University Press; 1998.
- 20 D.H. to Governor Albert Rosellini, January 21, 1957. Department of Health, Director's Files, 1954-57. Washington State Archives (WSA), Olympia, WA. Box 1, folder 59.
- 21 A.P. to To Whom It May Concern, n.d. American Civil Liberties Union of Washington (ACLU-W) papers. University of Washington Archives (UWA), Seattle, WA. Box 25, folder: due process committee, Firland Sanatorium.
- 22 D.H. and D.D. to the Spokane Chronicle, January 15, 1957. Department of Health, Director's Files, 1954-57. WSA. Box 1, folder 59.
- 23 Washington State Department of Health. Objectives of tuberculosis hospital survey team, March 21, 1957. DSHS 300 files, WSA. Box 42, folder: consolidation (history).
- 24 Minutes of the Board of Directors of the ACLU-W, February 7 and December 5, 1957. ACLU-W papers. University of Washington Archives (UWA), Seattle, WA. Box 15, folder 5.
- 25 Fagan RJ, Berger SM. A partial evaluation of the Firland alcoholism program. Seattle: Firland Sanatorium; 1964.
- 26 Sheehy TF Jr. Informally speaking. *Firland Magazine* 1957;45(2):3-4.
- 27 The recalcitrant tuberculosis patient [editorial]. *JAMA* 1958;167:74.
- 28 Dressler SH. The case against compulsory isolation of the recalcitrant tuberculosis. *R I Med J* 1959;42:651, 653.
- 29 Ward G. *Firland Magazine* 1963;51(2):8.
- 30 Cantwell ME, Snider DE Jr, Cauthen GM, Onorato I. Epidemiology of tuberculosis in the United States, 1985 through 1992. *JAMA* 1994;272:535-539.
- 31 Brudney K, Dobkin J. Resurgent tuberculosis in New York City: human immunodeficiency virus, homelessness, and the decline of tuberculosis control programs. *Am Rev Respir Dis* 1991;144:745-749.
- 32 Curtis JR, Hooton TM, Nolan CM. New developments in tuberculosis and HIV infection: an opportunity for prevention. *J Gen Intern Med*. 1994;9:286-294.
- 33 Gostin LO. Controlling the resurgent tuberculosis epidemic: a 50-state survey of TB statutes and proposals for reform. *JAMA* 1993;269:255-261.
- 34 Annas GJ. Control of tuberculosis—the law and the public's health. *N Engl J Med* 1993;328:585-588.
- 35 Gasner MR, Maw KL, Feldman GE, et al. The use of legal action in New York City to ensure treatment of tuberculosis. *N Engl J Med* 1999;340:359-366.
- 36 Oscherwitz T, Tulskey JR, Roger S, et al. Detention of persistently nonadherent patients with tuberculosis. *JAMA* 1997;278:843-846.
- 37 Burman WJ, Cohn DL, Rietmeijer CA, et al. Short-term incarceration for the management of noncompliance with tuberculosis treatment. *Chest* 1997;112:57-62.
- 38 Singleton L, Turner M, Haskal R, et al. Long-term hospitalization for tuberculosis control: experience with a medical-psychosocial inpatient unit. *JAMA* 1997;278:838-842.
- 39 Lerner BH. Catching patients: tuberculosis and detention in the 1990s. *Chest* 1999;115:236-241.
- 40 Farmer P. TB superbugs: the coming plague on all our houses. *Natural History*. 1999 April;46:53.
- 41 Maher D, Nunn P. Commentary: making tuberculosis treatment available for all. *Bull World Health Organ* 1998;76:125-126.

## COMMENTARY

### Considerations on the road to involuntary confinement

Jacqueline Peterson  
Tulsky  
AIDS Division  
San Francisco  
General Hospital  
University of  
California,  
San Francisco  
Box 0874  
995 Potrero Street  
San Francisco, CA  
94110

Mary Castle White  
Community Health  
Systems  
University of  
California,  
San Francisco

Mr. Martinez came from the Philippines to San Francisco. He came with other 70-year-old veterans, naturalized citizens who had been promised a monthly social security check for supporting the Allies in World War II. He left behind his family and most of his material goods, but he brought along his drug-resistant tuberculosis. From late at night until dawn, he worked with other Filipinos, cleaning and completing odd jobs around the casinos in Reno, Nevada. By the time his illness was diagnosed, a few years after he arrived in the United States, he could no longer support himself or send money home.

Because his tuberculosis was drug-resistant, he was placed on directly observed therapy (DOT). He came into the clinic or met with someone at his home or in the neighborhood who would watch him take his pills. He said he was not an educated man and had trouble remembering his weekend dose of medications. While he did not mind the directly observed therapy, he needed his extra income and would leave for Reno once or twice a week.

The clinic staff was sympathetic but resolved to hold Mr. Martinez to the rigors of directly observed therapy. They had sent their Filipino health worker to educate him; they had offered him sandwiches, bus tokens, and kind words. Treating him through the tuberculosis clinic in Reno was not an option since he worked irregularly and at different

places. He was a public health threat. What was left except to confine him involuntarily in the hospital or the jail?

Tuberculosis is the classic disease for observing the interplay between individual rights and public health protection. Directly observed therapy, implemented by skilled health workers and enhanced with incentives and enablers, is the primary tool for successful treatment of tuberculosis,<sup>1</sup> but it does not always work. Lerner has examined the evolution of confinement in Seattle, Washington, as a means of controlling tuberculosis.<sup>2</sup> Now, as then, while involuntary confinement appears the ultimate tool for successful treatment of tuberculosis, closer examination suggests that less coercive measures may be more suitable.

In the United States, public health emphasis has seen-sawed between chemotherapy and behavioral therapy. When new drugs for treating tuberculosis became available in the 1950s, behavioral interventions were shunted aside, only to reemerge as a critical tool with the new round of epidemics in the late 1980s. The rise in the number of people with the disease and the development of multidrug resistance, due primarily to poor therapy adherence, motivated changes in tuberculosis programs. Behavioral interventions, in the form of directly observed therapy, have been the treatment of choice since adherence seized the

agenda in the prevention and treatment of tuberculosis. While most patients respond to orders for directly observed therapy, many states revamped old public health laws to enforce treatment. Involuntary confinement is seen as the ultimate tool in treatment. In a systematic evaluation of involuntary confinement in California, however, 3 questions arose: How effective is coercion as a control measure for tuberculosis? Is it applied equitably across counties? How frequently available and utilized are less coercive measures, including comprehensive psychiatric and addiction care?<sup>3</sup>

Is involuntary confinement effective? In the study by Oscherwitz et al., 84% of confined patients eventually completed therapy although most were not forced to remain confined to the end of treatment. While this is a high percentage of treatment completion in a difficult group of patients, Centers for Disease Control guidelines call for 90% completion rates.<sup>4</sup> Even using the "ultimate tool" for control, success is not guaranteed.

Is involuntary confinement being equitably applied? Patients in the California study who were identified as needing involuntary confinement were more often young, homeless, and unemployed, with drug and alcohol histories, as compared with patients who were more adherent to therapy for tuberculosis. The rates of tuberculosis patients needing confinement varied widely by county. Some tuberculosis control officers reported attempting to confine no one; others confined up to 8.9% of their cases in the study years examined. Counties varied widely in their access to suitable places to confine contagious patients, in their relationships with the sheriffs and judges needed to implement and maintain confinement orders, and in their philosophy about the use of involuntary confinement.

Are control officers considering less coercive measures? Evaluation and treatment of comorbid illnesses might actually interfere with the ability to accept therapy for tuberculosis. Where substance misuse or mental illness was identified in nonadherent patients, fewer than half were documented as having been referred for care of these illnesses prior to their planned involuntary confinement.

The larger question of protection of rights is raised for tuberculosis patients who also suffer from mental illness or substance misuse. Is it fair to use threats such as involuntary confinement if the patient's ability to understand the consequences is impaired? The bacilli of the mentally ill patient may be just as contagious as the mentally well patient's. Are the rights of the former being upheld if he or she does not comprehend the connection between behavior and punishment? This question is particularly important when one considers the availability of routine mental health assessments by trained professionals in tuberculosis control programs. Few have access to staff that are trained in mental health assessment, and almost none are able to offer professional interventions on site.

Most publicly available mental health care comes from the same public health departments that fund tuberculosis control. There may be long waits for assessments. Access to ongoing treatment may be available only for the most seriously impaired. Access to drug and alcohol treatment programs is more available, but in many counties court orders are required to put patients at the top of the treatment waiting lists.

Are there options better than confinement? Positive-value incentives have been used widely, though casually, in most control programs. Programs rely on noncash incentives such as meals, vouchers for food, transportation assistance, an occasional birthday card, or flowers from the staff gardens to engage and reward patients. Studies of protocol-guided use of cash and noncash incentives are showing rates greater than 80% in completion of appointments to the tuberculosis clinic and completion of therapy.<sup>5-7</sup> Small cash incentives bring screening and preventive therapy completions to rates equal to the best efforts of highly skilled tuberculosis control programs that use conventional methods.<sup>8</sup> While none of these studies has compared cash incentives to the threat of or use of involuntary confinement as a tool for implementing directly observed therapy, there is clearly potential for less overtly coercive means of completing treatment.

The use of cash incentives for health care engenders much debate among public health specialists. The slippery slope of getting into the business of "paying to get healthy" looms large in the minds of all who contemplate the prospects of cash distribution at the local tuberculosis clinic. Would people try to get tuberculosis so they could be paid to take medication? If we pay for tuberculosis care, will we have to start paying people to take their pills for sexually transmitted diseases and AIDS? Where individual health and public health concerns overlap, these dilemmas are real.

While there are difficult ethical and social issues in the use of incentives, perhaps we must accept that in matters of individual rights and public health there are no easy fixes. If a "tuberculosis stipend" offers our Filipino veteran an incentive to stay home and comply with his directly observed therapy, and furthermore keeps him out of the locked ward in the county jail, which would you prefer to consider as the option of last resort?

#### References

- 1 Iseman MD, Cohn DL, Sbarbaro JA. Directly observed treatment of tuberculosis: we can't afford not to try it. *N Eng J Med* 1993;328:576-578.
- 2 Lerner B. Tuberculosis in Seattle, 1949-1973: balancing public health and civil liberties. *West J Med* 1999;171:44-48.
- 3 Oscherwitz T, Tulsy JP, Roger S, et al. Detention of persistently nonadherent patients with tuberculosis. *J Am Med Assoc* 1997;278:843-846.
- 4 Centers for Disease Control. A strategic plan for the elimination of tuberculosis in the United States. *Mor Mortal Wkly Rep* 1989;38(S-13):1-25.
- 5 Pilote L, Tulsy JP, Zolopa AR, et al. Tuberculosis prophylaxis in the homeless. *Arch Intern Med* 1996;156:161-165.
- 6 LoBue PA, Cass R, Lobo D, et al. Development of housing programs to aid in the treatment of tuberculosis in homeless individuals: a pilot study. *Chest* 1999;115:218-223.
- 7 Tulsy JP, Hahn J, Chambers D, et al. A randomized trial of incentives to prevent tuberculosis in the homeless [abstract]. *Respir Crit Care Med* May 1998.
- 8 Tuberculosis program management in the United States 1986-1991. Atlanta, Ga: Centers for Disease Control and Prevention; March 3, 1993.